Appliance Documentation

HC(S) 2062 / CS 2062

ECN(es) 6256 index 11A to 11I / version 337
CNes 6256 index 10C to 11B / version 337

NoFrost combined fridge-freezer 91 cm
(refrigerator compartment with FrenchDoor – freezer compartment with pull-out units)

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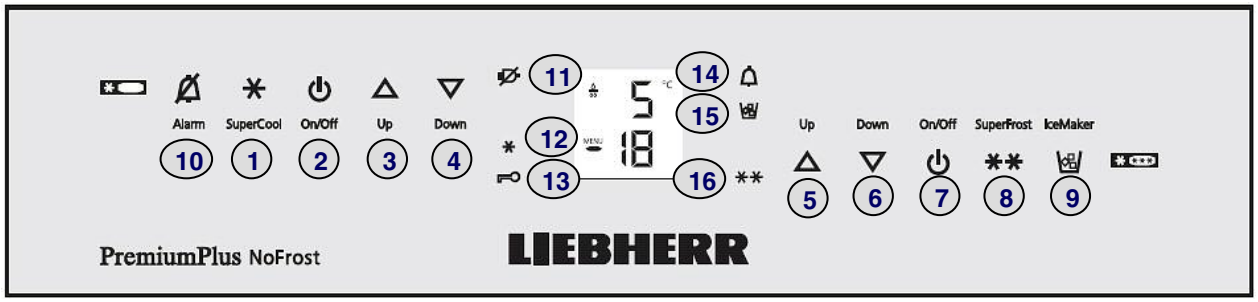
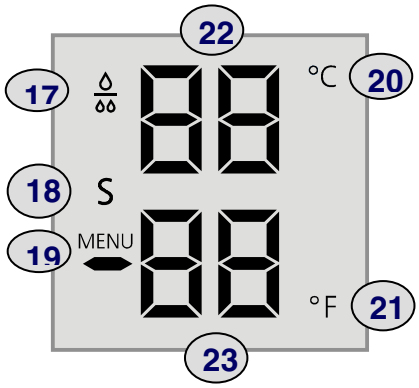
1.0 Operating and control elements





Operating elements:

	Refrigerator compartment			Freezer compartment	
1	**SuperCool**	SuperCool function	5	**Up**	Setting button temperature **higher**
2	**ON/OFF**	ON/OFF button for refrigerator compartment	6	**Down**	Setting button temperature **lower**
3	**Up**	**Setting button** temperature **higher**	7	**ON/OFF**	ON/OFF button for freezer compartment
4	**Down**	**Setting button** temperature **lower**	8	**SuperFrost**	SuperFrost function
			9	**IceMaker**	ON/OFF button for IceMaker
		General			
10	**Alarm**	Alarm OFF button for audible alarm			

Controls:

	Front panel		MagicEye
11	Power failure	17	Change water filter
12	SuperCool activated	18	Sabbath mode activated
13	Child lock activated	19	Customer menu activated
14	Alarm	20	Temperature display in °C
15	IceMaker ON	21	Temperature display in °F
16	SuperFrost activated	22	Refrigerator compartment temperature
		23	Freezer compartment temperature

2.0 Functions at a glance

Control:	Electronic	
Temperature display:	Refrigerator compartment: Freezer compartment:	Actual value Actual value
Temperature range:	Refrigerator compartment: Freezer compartment:	35°F to 44°F (+2°C to +7°C) -15°F to 6°F (-14°C to -26°C)
Temperature alarm:	Refrigerator compartment: Freezer compartment:	Not present Visual, audible
Door alarm:	Refrigerator compartment: Freezer compartment:	Audible Audible
Fan:	Refrigerator compartment: Freezer compartment:	Present Present
Defrosting:	Refrigerator compartment: Freezer compartment:	Automatic Automatic
Interior light:	Refrigerator compartment: Freezer compartment:	Present Present
Service menu:	Present	
Compressor:	2x VCC	
Solenoid valve refrigeration circuit:	Not present	

3.0 Description of the appliance

The HC(S)/CS 2062 is a combined fridge-freezer with a freely suspended rear wall evaporator in the refrigerator compartment and a NoFrost freezer compartment with IceMaker.
The temperature in the refrigerator compartment is controlled by an air sensor and an evaporator sensor.
The temperature in the freezer compartment is likewise controlled by an air sensor.

The appliance has 2 compressors. Therefore the refrigerator compartment and freezer compartment have a separate refrigeration circuit and can be controlled separately.

The freezer compartment is equipped with a NoFrost rear wall evaporator module, fan module, air sensor and evaporator sensor. The defrosting phases are initiated by way of the electronic control system. taking compressor running time and door openings into account. There is an automatic IceMaker in the freezer compartment.

3.1 Sensor positions, schematic diagram

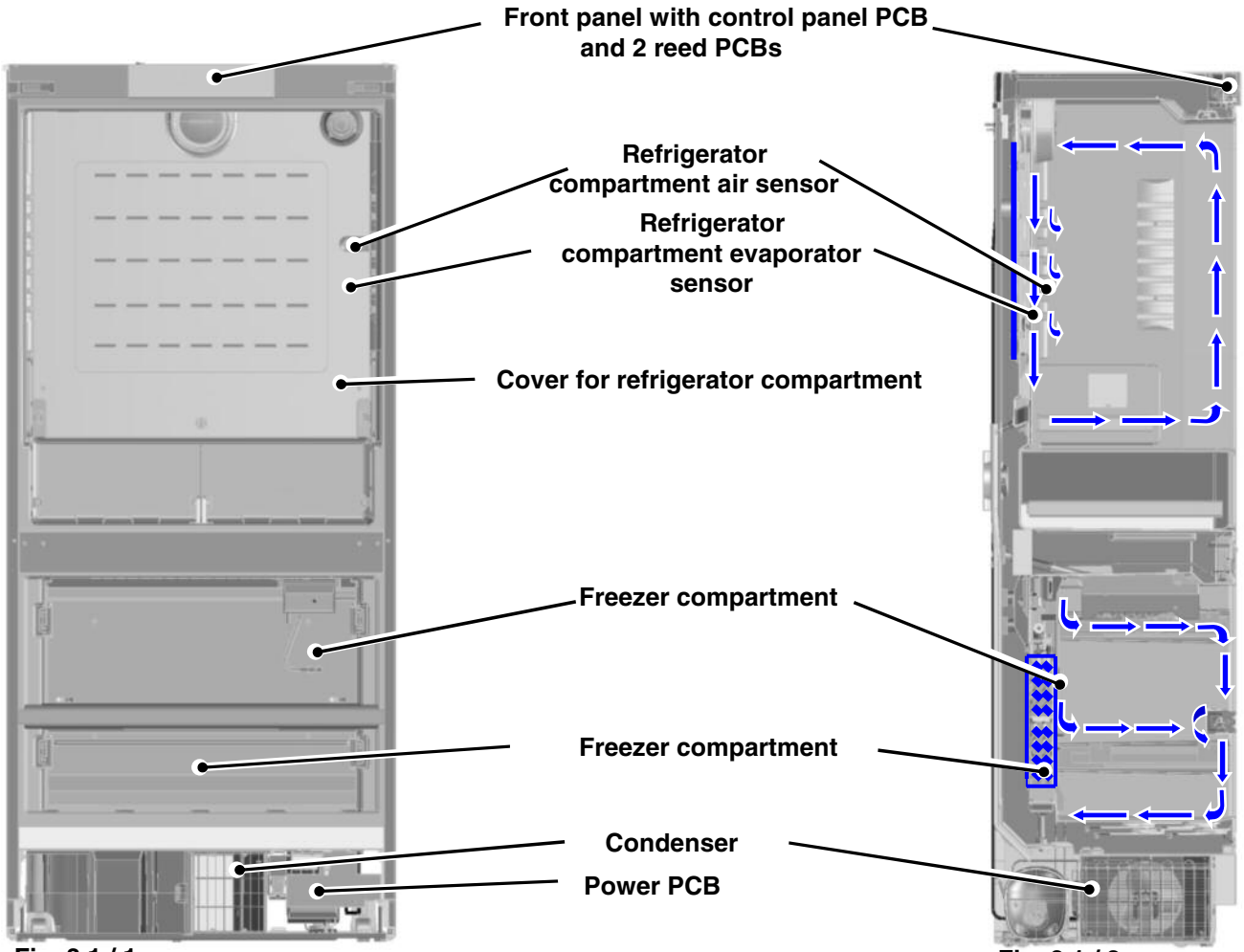
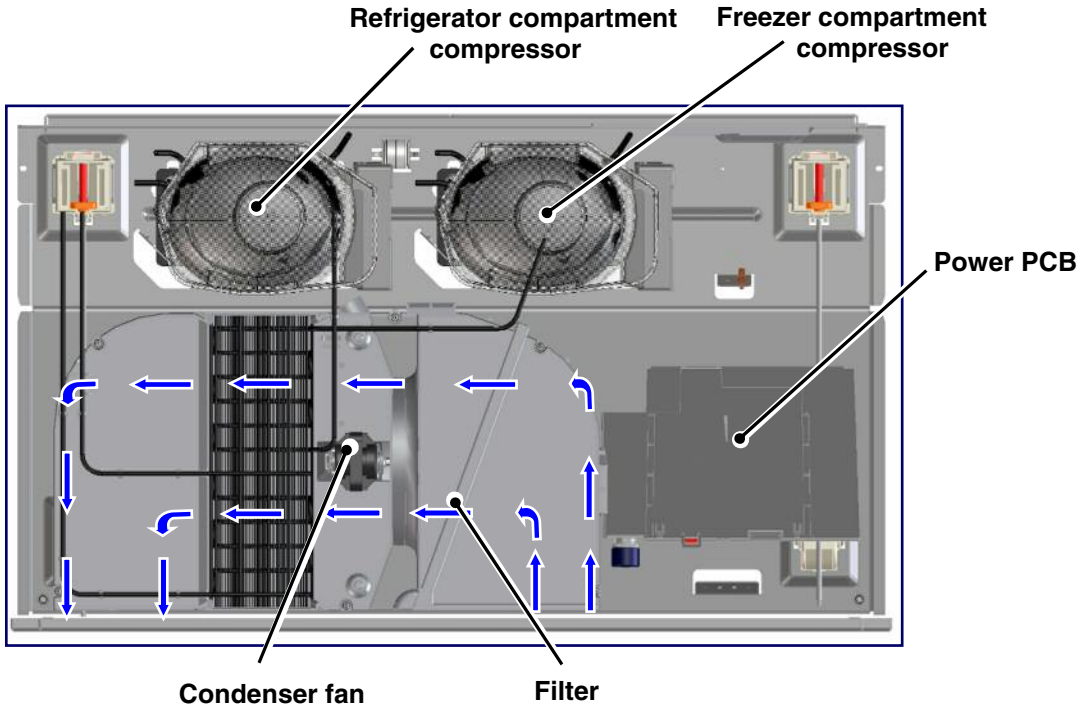


Fig. 3.1 / 1

Fig. 3.1 / 2

3.2 Socket construction, schematic diagram



4.0 Main components and their functions

4.1 Electrical components and functions

4.1.1 General

Electronic control system	
Type:	Series 6 electronic control system
Components:	Control panel and power PCB
Condenser fan	
Position:	In the socket of the appliance
Components:	**ON:** Refrigerator compartment compressor ON **or** Freezer compartment compressor ON **OFF:** Both compressors OFF
Compressor	
Type:	2 x VCC compressors, frequency controlled
Function refrigerator compartment:	**ON:** Refrigerator compartment evaporator sensor switch-on value Note: On-delay time (8 minutes) must have elapsed. **OFF:** Refrigerator compartment air sensor switch-off value
Function freezer compartment:	**ON:** Freezer compartment air sensor switch-on value Note: On-delay time (8 minutes) must have elapsed. **OFF:** Freezer compartment air sensor switch-off value

VCC compressor, frequency-controlled.

- Compressor with 4 different speeds (1600 / 1900 / 3000 / 3600 rpm).
- The inverter electronic control is fitted directly on the compressor. The inverter electronic control controls the compressor with a pulse-width modulated square-wave voltage.
- For speed value input, the inverter electronic module receives a square wave frequency signal from the power PCB.
  This frequency signal is output with 56, 71, 87,100 or 117 Hz, depending on the speed at which the compressor is to run.

Frequency in Hz	Speed in rpm	Operation
56	Compressor OFF	Compressor OFF
71	1600	Ideal case
87	1900	Control mode
100, 0 (signal interruption), other values than the defined frequencies	3000	Start-up, signal interruption, signal fault
117	3600	SuperFrost

- **Runtime longer than 70 minutes:**
  Speed increase by one step during compressor operation.
- **Runtime shorter than 50 minutes:**
  Speed reduction on next start-up.

4.1.2 Refrigerator compartment

Electronic control system		
Setting range:	Refrigerator compartment:	35°F to 44°F (+2°C to +7°C)
Display range:	32°F to 118°F (0°C to 48°C) (actual value display) Temperatures equal to/colder than 32°F (0°C) are displayed with 32°F (0°C).	
Functions		
SuperCool:	**SuperCool ON:** Refrigerator compartment sets itself to 2°C for 6 hours. **SuperCool OFF:** The refrigerator compartment sets itself to the set value.	
Defrosting:	Automatic during compressor standstill phase.	
Door alarm:	When:	If door is open, after 60 seconds.
	Audible:	3 beeps.
Sensors		
Refrigerator compartment air sensor:	Position:	In the vertical cover.
	Function:	- Switches OFF the refrigerator compartment compressor. - Generates the refrigerator compartment temperature display value.
Evaporator sensor:	Position:	In the sensor holder on the back of the evaporator.
	Function:	- Switches ON the refrigerator compartment compressor. - Ends the defrosting phase.
Switch		
Door switch:	Position:	In front panel.
	Type:	2x reed PCB
	Contact type:	Make contact
	Function:	Activation via: Magnet on both doors, magnet is replaceable.
		Switching signal when:
		doors closed: fan ON interior light OFF
		doors open: fan OFF interior light ON door alarm ON after 60 seconds
Loads		
Fan:	Position:	Centre of liner ceiling, behind vertical separating plate.
	Function:	Fan runs in parallel with compressor.
	Control:	11V/DC
Refrigerator compartment interior light:	Position:	Inside right and left
	Function:	- Shines as soon as the door is opened. - Is switched OFF after door has been open for 15 minutes.
Heater for FrenchDoor-gasket:	Position:	mounted in each FrenchDoor-gasket
	Function:	If neccessary it can be activated by the costumer (condensation) (see chapter 7.0.)

4.1.3 Freezer compartment

Electronic control system	
Setting range:	-15°F to 6°F (-14°C to -26°C)
Display range:	32°F to 58°F (0°C to -50°C) (actual value display) Values above 32°F (0°C) are indicated by a dash.

Functions		
Temperature alarm:	Alarm value:	4K warmer than set value.
	SuperFrost alarm value:	14°F (-10°C)
	Delay:	20 minutes.
	Visual:	Flashing temperature display.
	Audible:	4 beeps.
	During start-up: is reached,	The temperature display flashes until the switch-off value the audible alarm is switched OFF.
	(E.g. given a set value of 0°F (-18°C), a temperature of 7°F (-14°C) has to be present for at least 20 minutes, then a temperature alarm is activated.)	
	When the defrosting phase begins, the temperature alarm is suppressed for 1.5 hrs.	
Defrosting:	The defrosting phase is initiated: - During start-up after 6 hours cumulative compressor running time. - After a cumulative compressor running time of 12 to 40 hours maximum, depending on the number/duration of the door openings. As the defrosting phase begins, the compressor and fan are switched OFF and the defrost heater is switched ON. The defrost heater remains switched ON until such time as - the freezer compartment evaporator sensor has reached 41°F (+5°C) or - a max. defrosting time of 50 minutes has been reached. After the end of the heating phase, the compressor is switched on with a 5-minute delay. If the SuperFrost function is activated during the defrosting phase, this will not interrupt defrosting.	
Door alarm:	When:	If door is open, after 60 seconds.
	Audible:	3 beeps.
SuperFrost:	**SuperFrost ON:** The appliance sets itself to -29°F (-34°C) for at least 30 hours. In the following 35 hours SuperFrost ends automatically once the temperature falls 8K below the set value (at 0°F (-18°C) -> -15°F (-26°C)) or after the total time of 65 hours has elapsed. **SuperFrost OFF:** The freezer compartment sets itself to the set value. **Attention:** If SuperFrost is actuated during a defrosting phase, the SuperFrost function is not performed before the defrosting phase has run.	

Sensors

Air sensor:

Position: On the front of the evaporator cover.

Function:
- Switches the freezer compartment compressor ON.
- Switches the freezer compartment compressor OFF.
- Freezer compartment air sensor and freezer compartment evaporator sensor switch the freezer compartment fan ON
- Generates the freezer compartment display value.

Evaporator sensor:

Position: Inserted in the lower area of the lamellar evaporator.

Function:
- Freezer compartment evaporator sensor and freezer compartment air sensor, switch the freezer compartment fan ON.
- Ends the defrosting phase.

Switch

Door switch:

Position: Behind the freezer compartment evaporator cover.

Type: 2 x reed PCB

Contact type: Make contact

Function: Activation via:
Magnet in back right corner of the drawers.
Magnet is replaceable.

Switching signal when:

door closed:	fan	ON
	interior light	OFF
door open:	fan	OFF
	interior light	ON
	door alarm	ON after 60 seconds

Loads

Fan:

Position: Top centre of freezer compartment.

Function: **ON:**
- compressor ON **and**
- freezer compartment door closed **and**
- evaporator sensor switch-on value reached.

Switch-on value evaporator sensor:
a) during start-up / after defrosting phase: -4°F (-20°C).
b) In the normal mode 2K colder than freezer compartment air sensor.

OFF: - Compressor OFF

Defrost heater:

Position: Clipped into lamellar evaporator.

Function: Defrosts the evaporator.
For activation, see: **Functions Defrosting**

Interior light:

Position: Underneath the crosspiece.

Function:
- Shines as soon as the door is opened.
- Is switched OFF after door has been open for 15 minutes.

4.2 Refrigeration components and functions

4.2.1 General

Compressor	
Compressor:	2x VCC

4.2.2 Refrigerator compartment

Evaporator	
Type:	Rear wall evaporator
Type of installation:	Suspended freely.
Injection point:	At the top left

4.2.3 Freezer compartment

Evaporator	
Type:	Lamellar evaporator
Type of installation:	Freestanding between air duct panel and compartment liner.
Injection point:	Top right on lamellar evaporator.

5.0 Assembly instructions / replacement of parts

5.1 General

5.1.1 Electronic control panel

Covers: - Disengage the covers at the marked locations.

Fig. 5.1.1/ 1

Ab. 5.1.1/ 2

PCB carrier: - Disengage and remove bus connector.

Note: - Front panel is replaceable only as a unit, control PCB and reed PCBs are not separately available!

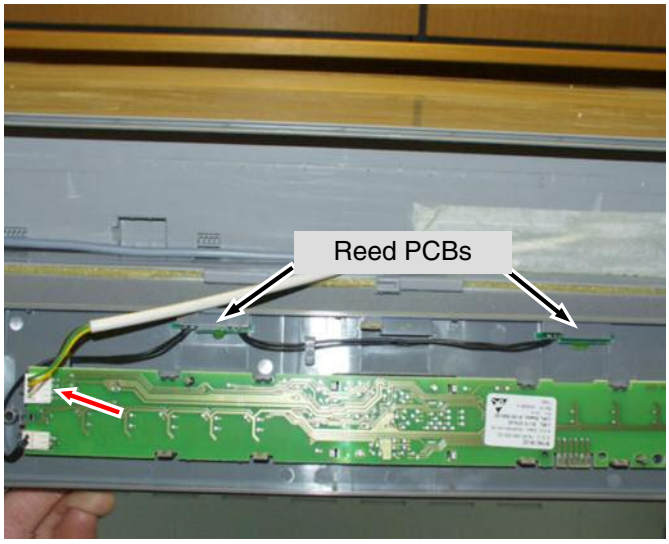


Fig. 5.1.1 / 3

5.1.2 Electronic power module

Housing:

- Remove the ventilation grill at the socket of the appliance.
- Hook out the two noses of the cover (from index 20H there is an additional fastening screw to remove).
- Swing the cover upwards and hook out the loop on top.

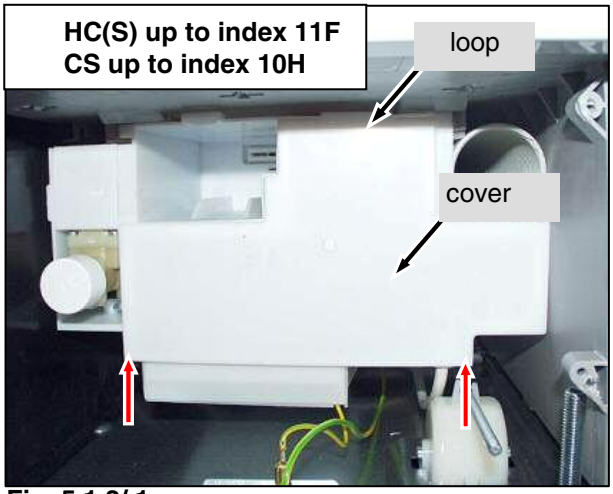


Fig. 5.1.2/ 1

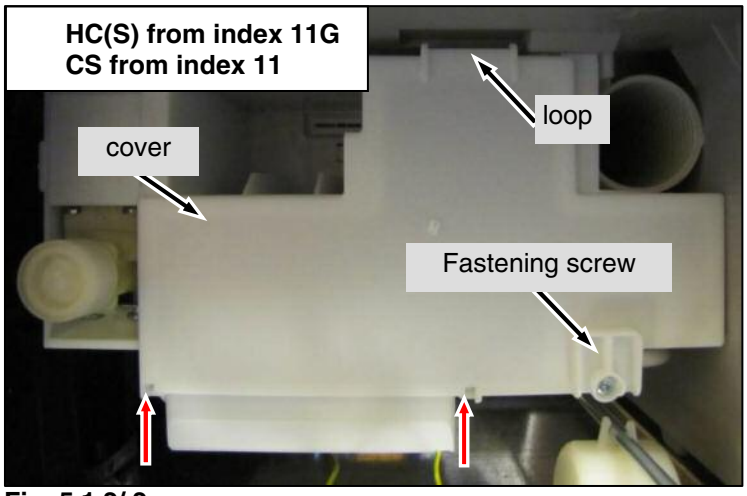


Fig. 5.1.2/ 2

Cable clip:

- Unclip the cable clip at the marked location and unscrew the strain relief.
- Detach front PCB edge connectors.

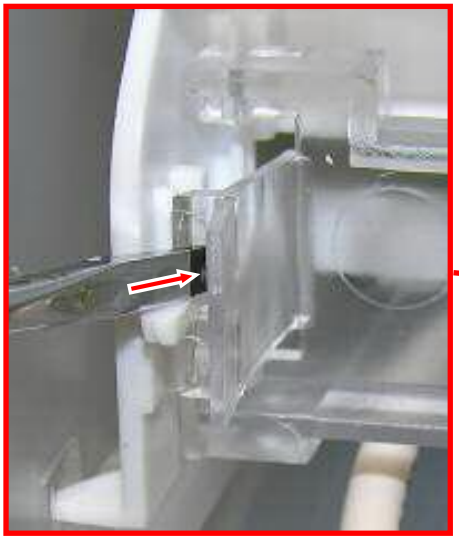


Fig. 5.1.2 / 3

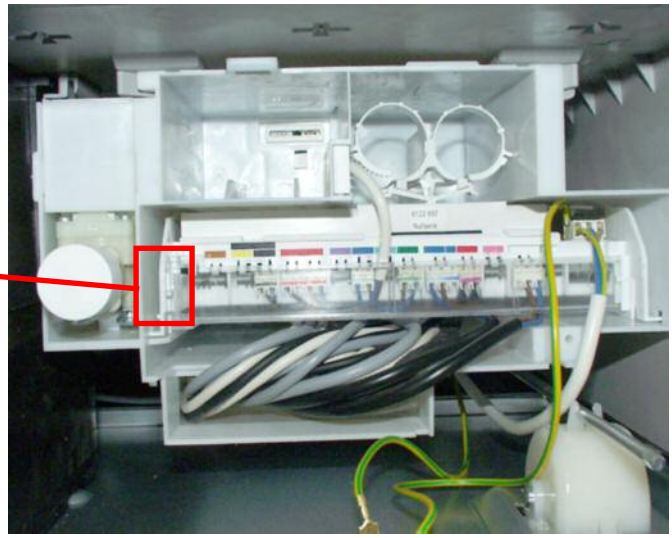


Fig. 5.1.2/ 4

PCB carrier:

- Unclip the PCB carrier at the left and right and draw it out of the unit carrier.
- Detach the feed cable and rear PCB edge connectors (sensor, reed conduct, bus line).

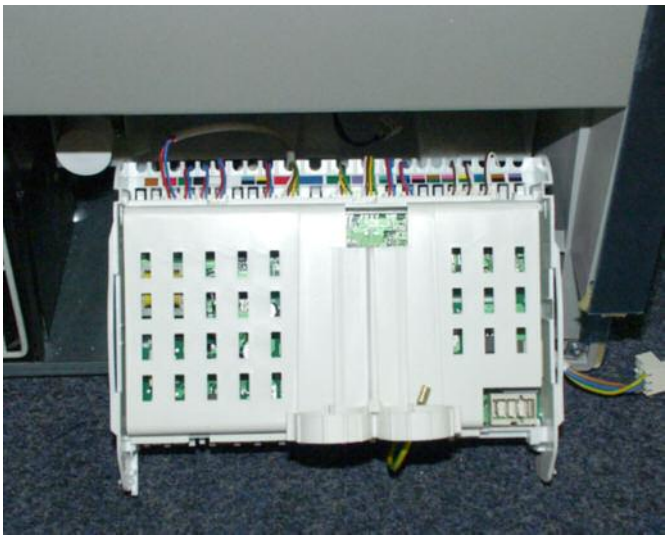


Fig. 5.1.2 / 3

Electronic power module:

- Disengage the upper part of the plug-in unit at the marked locking hooks and remove it.
- Disengage the PCB at the marked locations.

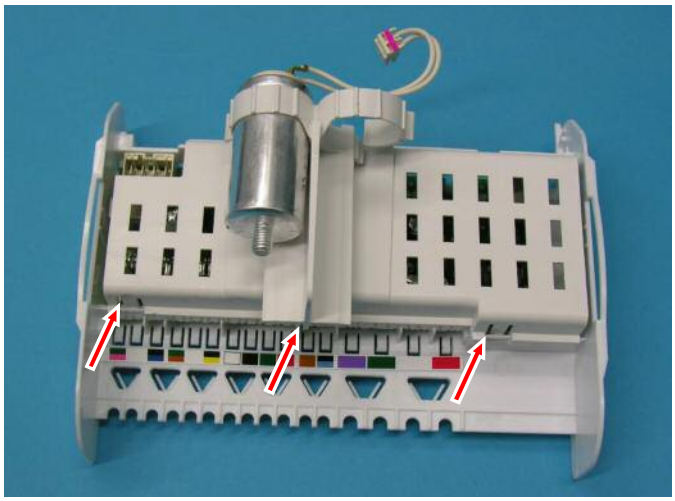


Fig. 5.1.2/ 4

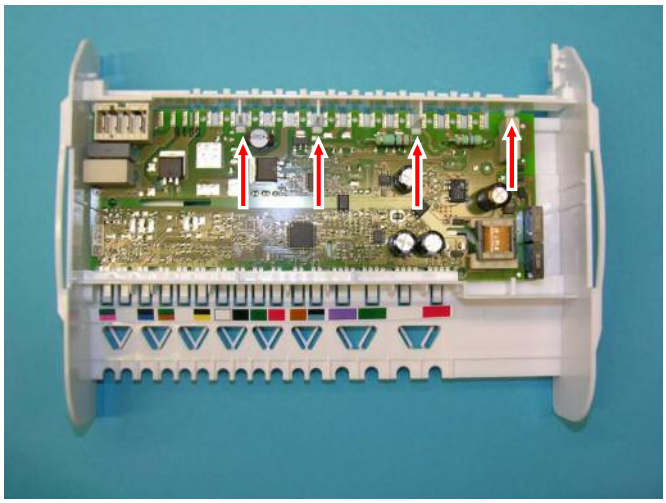


Fig. 5.1.2/ 5

5.1.3 Condenser fan

Removal:

- Loose the fastening screw and remove the protection grill.
- Pull off the fan blade.
- Plug of the motor.

Fig. 5.1.3/ 1

Fig. 5.1.3/ 2

Removal:

- Grap into the hole and strip off the motor from the rear base.
- Pull out the angle of the motor through the front base (rubber ring remains on the base).

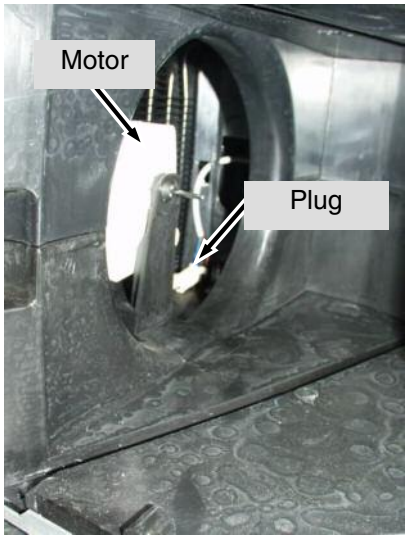


Fig. 5.1.3/ 3

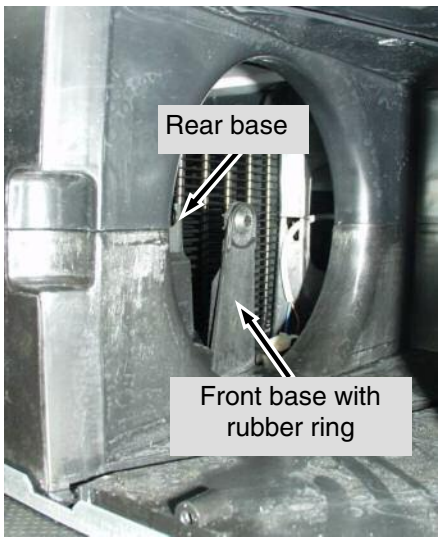


Fig. 5.1.3/ 4

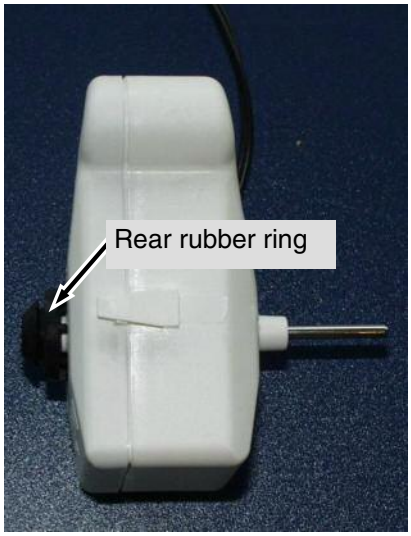


Fig. 5.1.3/ 5

5.1.4 Refrigerator door replacement

Cover:

- Unclip cover next to the front panel.
- Draw the cover of the upper turn hinge forwards for removal.

Fig. 5.1.4/ 1

Fig. 5.1.4/ 2

Connector:

- Part the connector.
- Remove the front fastening screws of the upper turn hinge.

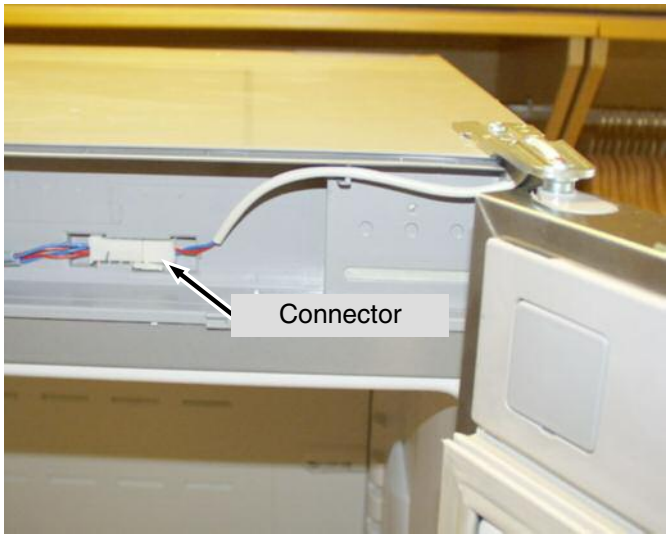


Fig. 5.1.4/ 3

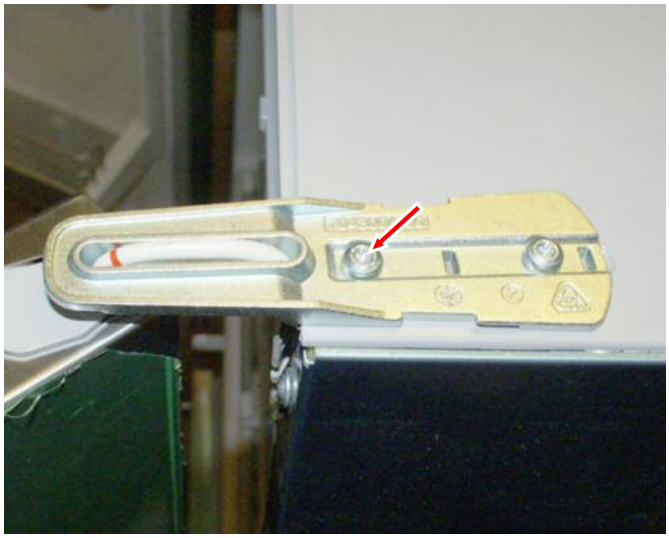


Fig. 5.1.4/ 4

Turn hinge:

- Undo the grub screw in the lower turn hinge.
- Turn the screw of the upper turn hinge into the hinge pin and pull the hinge pin down and out.
- Unscrew the second screw of the upper turn hinge and remove the door.

Fig. 5.1.4/ 5

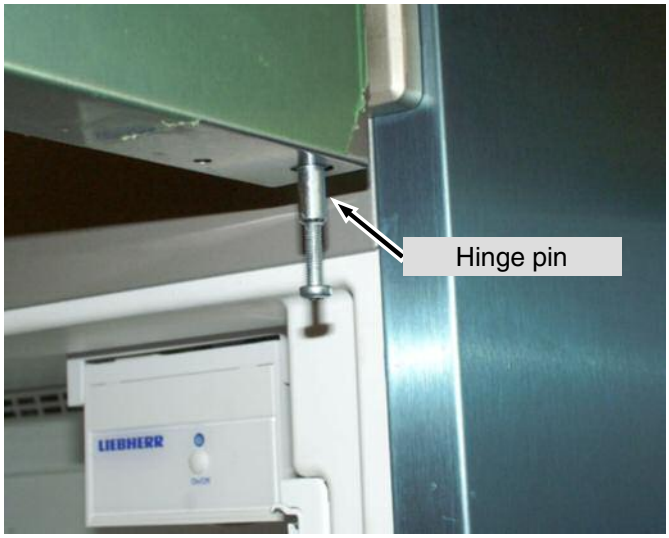


Fig. 5.1.4/ 6

Refrigerator compartment hinge bush:

- Remove the cover on the inside of the door extension and part the connector.
- Press the locating lug and raise the bush together with the turn hinge and cable for removal

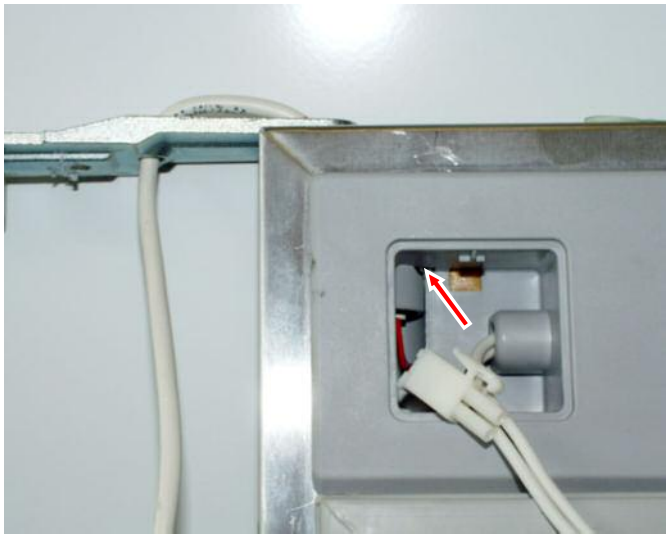


Fig. 5.1.4/ 7

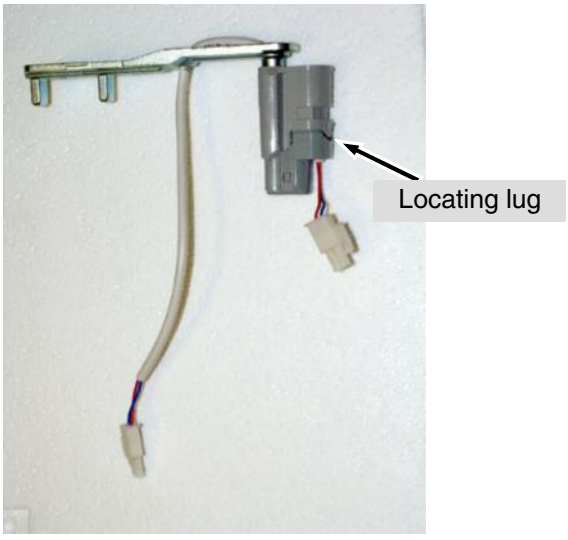


Fig. 5.1.4/ 8

5.1.5 Heating FrenchDoor seal (at CS up to index 10H)

Connector:

- Remove the cover on the inside of the door extension and part the connector.
- Pull the seal in the upper area out of the frame.
- Draw the heating cable first out of the seal and then through the tube in the door extension.

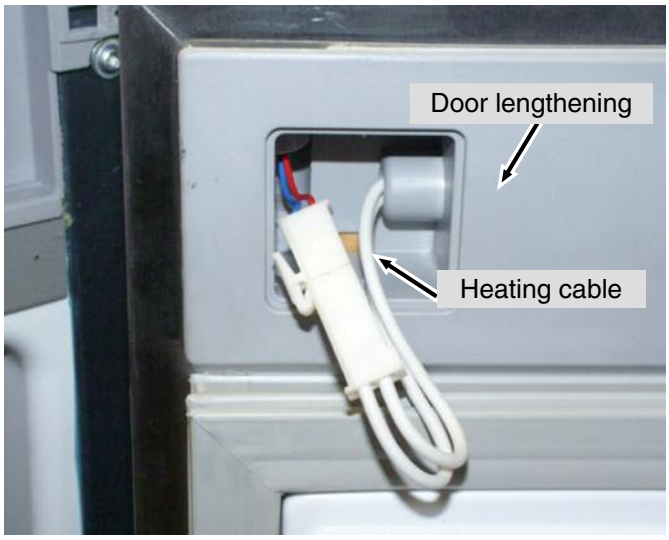


Fig. 5.1.5/ 1

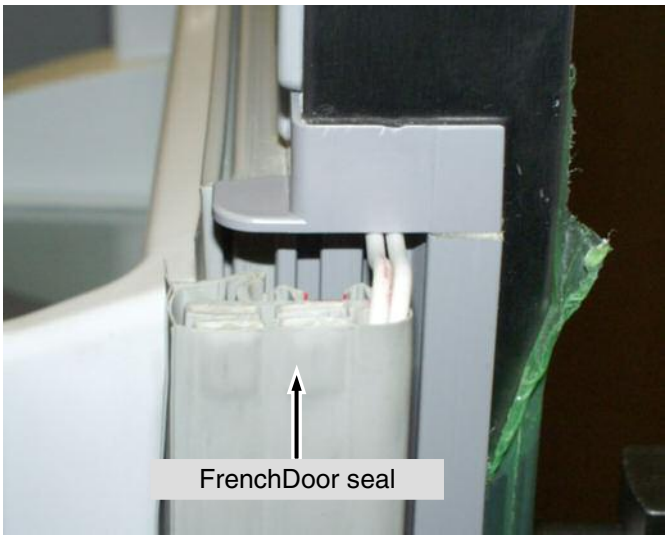


Fig. 5.1.5/ 2

To insert:

- To insert the new heating, first push a thin, rigid cable or similar from underneath through the seal and through the tube of the door extension.
- Insert the cable as far as the lower edge of the seal. The heating must not protrude.
- Press the seal into the double groove of the door frame.

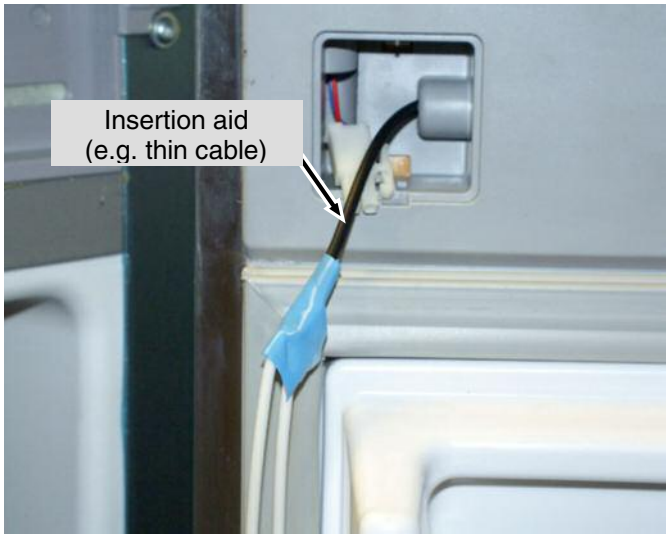


Fig. 5.1.5/ 3

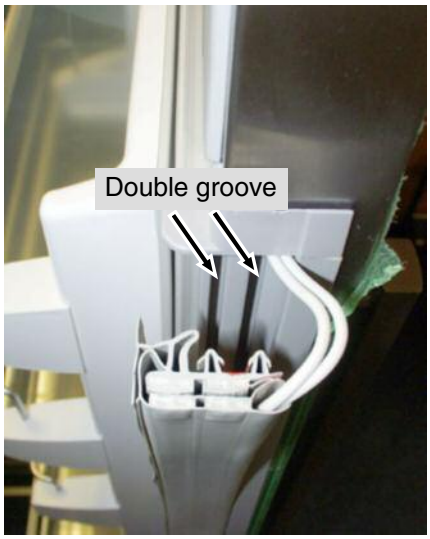


Fig. 5.1.5/ 4

Note:

- Seal can be fully removed if required.
- However this is not necessary for heating replacement.

5.1.6 Heating FrenchDoor seal (HC(S), at CS from index 11)

Connector:

- Remove the cover on the inside of the door extension and part the connector.
- Pull the seal in the upper area out of the frame.
- Draw the heating cable first out of the seal and then through the tube in the door extension.

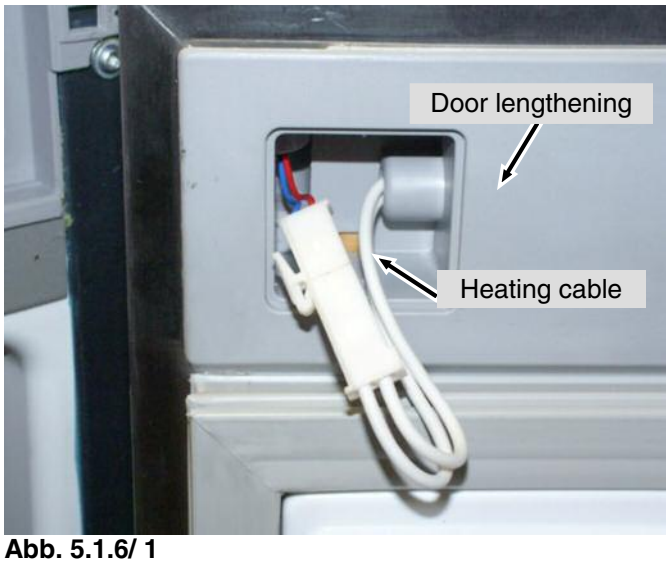


Abb. 5.1.6/ 1

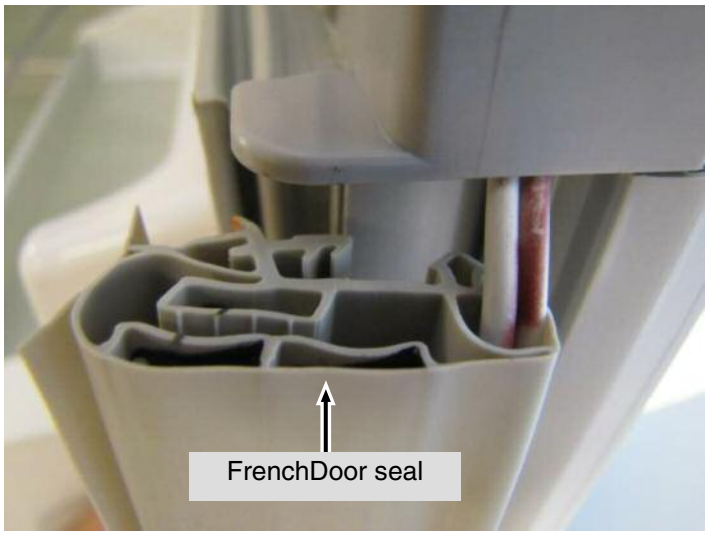


Abb. 5.1.6/ 2

To insert:

- To insert the new heating, first push a thin, rigid cable or similar from underneath through the seal and through the tube of the door extension.
- Insert the cable as far as the lower edge of the seal. The heating must not protrude.
- Press the seal into the groove of the profile.

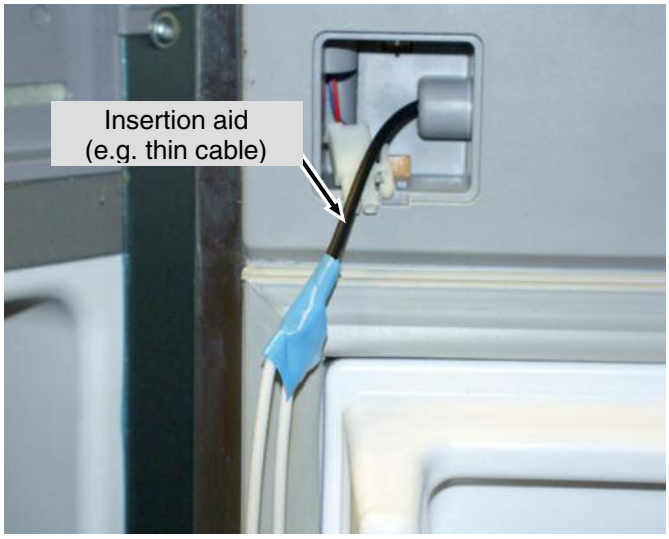


Abb. 5.1.6/ 3

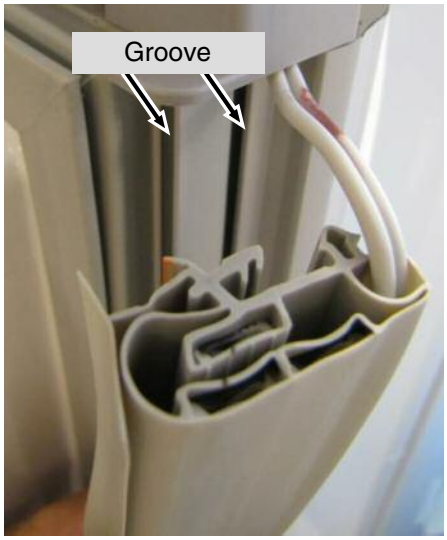


Abb. 5.1.6/ 4

Note:

- Seal can be fully removed if required.
- However this is not necessary for heating replacement.

5.2 Refrigerator compartment

5.2.1 Disassembling the refrigerator compartment evaporator cover

Refrigerator compartment evaporator cover: - Remove 7 screws, detach bayonet fitting, undo water filter.
- First draw the cover down a little and then swing it up.
- Disconnect the fan cable, draw the air sensor out of the holder and remove the cover.

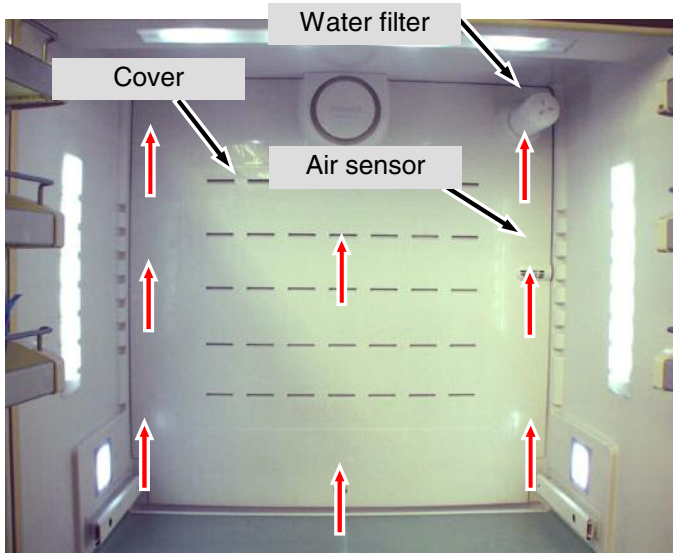


Fig. 5.2.1/ 1

5.2.2 Replacement of the base of the water filter

Base of the water filter:

- The base is mounted on the appliance's back wall behind the evaporator cover.
- Remove the compound mastic at the rear side of the back wall and cut off the water hoses.

Fig. 5.2.2/ 1

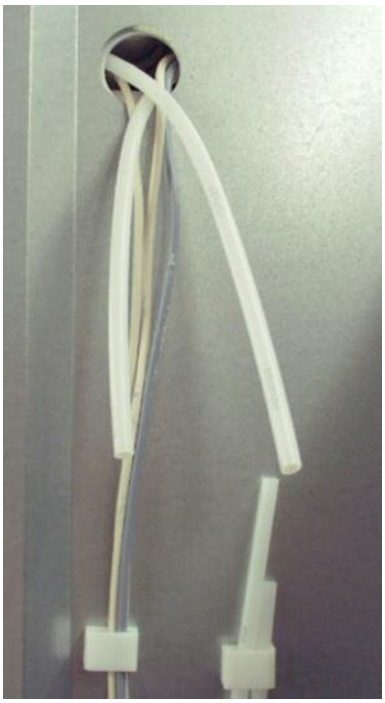


Fig. 5.2.2/ 2

Connection of the water hoses:

- Push the ends of the connectors deep into the connectors (17mm – make a mark).
  ATTENTION: Connect the correct ends. The water must be lead in the correct direction through the filter.
- Check the correct fitting and secure each connection with the red ring
- Put the hoses in their original position and test the system on any leakages (e.g. with the service mode of the IceMaker).

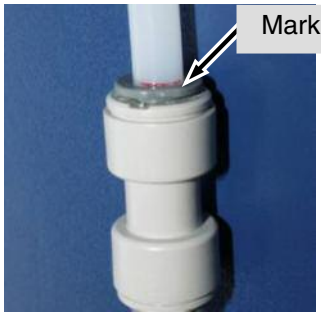


Fig. 5.2.2/ 4

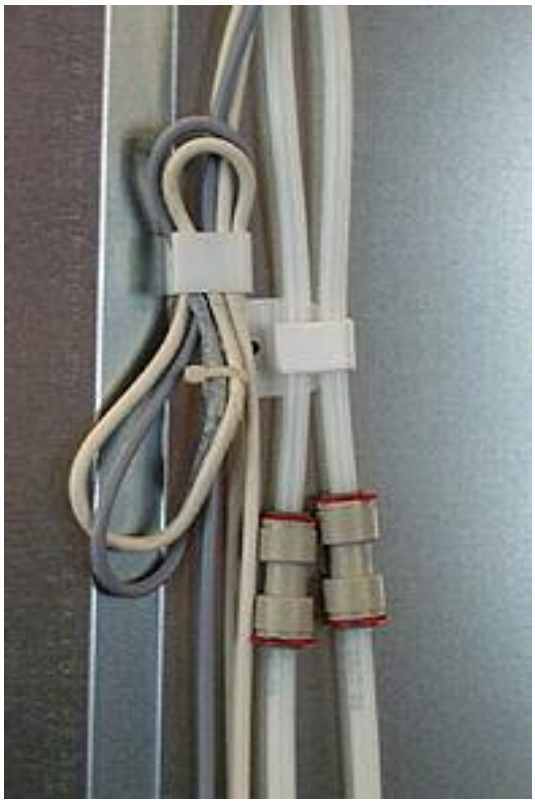


Fig. 5.2.2/ 5

5.2.3 Refrigerator compartment air sensor

Refrigerator compartment air sensor:

- Remove the Styrofoam cover of the air sensor and pull out the sensor.
- Pull the air sensor out rearwardly through the housing feedthrough and replace it by the repair kit. The repair instructions accompany the repair kit.

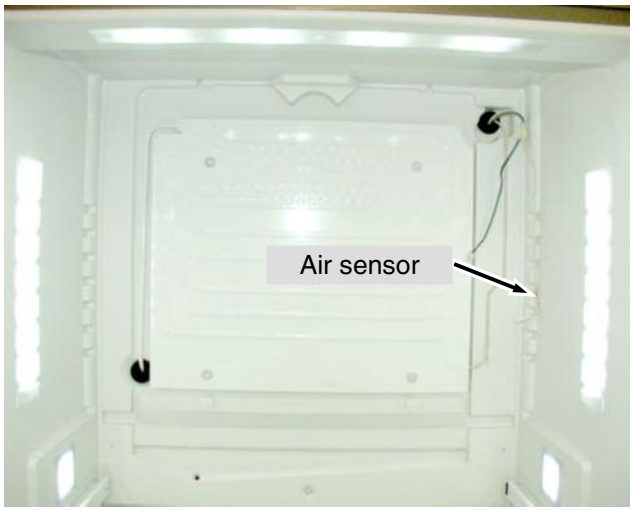


Fig. 5.2.3/ 1

Fig. 5.2.3/ 2

5.2.4 Refrigerator compartment evaporator sensor

Refrigerator compartment evaporator sensor: - Undo 4 bayonet screws.

- Swing the evaporator to the left side, draw the sensor out of the holder.
- Draw the evaporator sensor out rearwardly, through the housing feedthrough and replace it using the repair kit. The repair instructions accompany the repair kit.

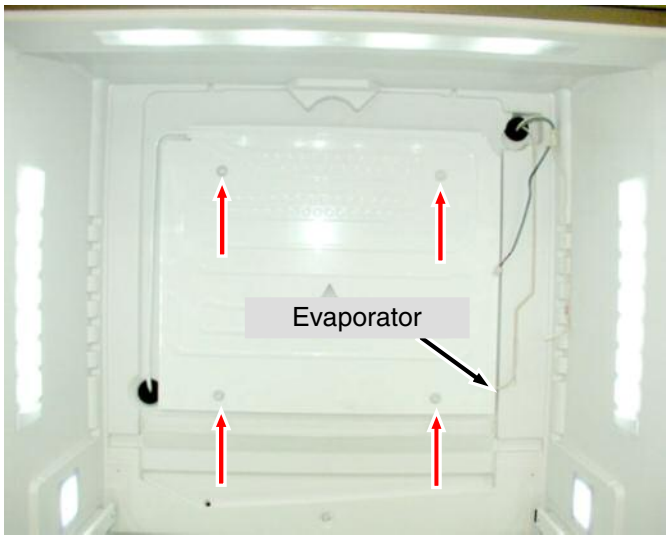


Fig. 5.2.4/ 1

Fig. 5.2.4/ 2

5.2.5 Refrigerator compartment fan

Refrigerator compartment fan: - Draw the absorber ring out of the cover at the top.
- Draw the fan out of the absorber ring.

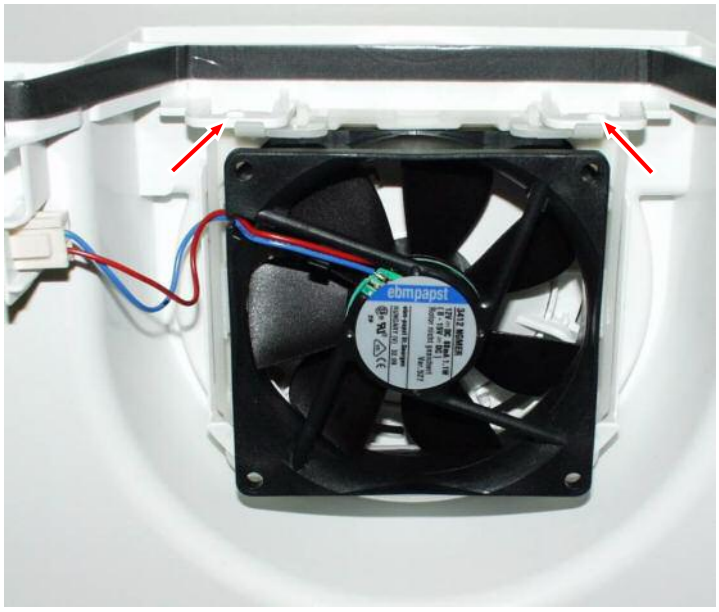


Fig. 5.2.5/ 1

Fig. 5.2.5/ 2

5.2.6 Fitting the cover

Fitting: - Push the retaining lug of the cover into the grooves of the compartment liner.
- Screw the cover tight.

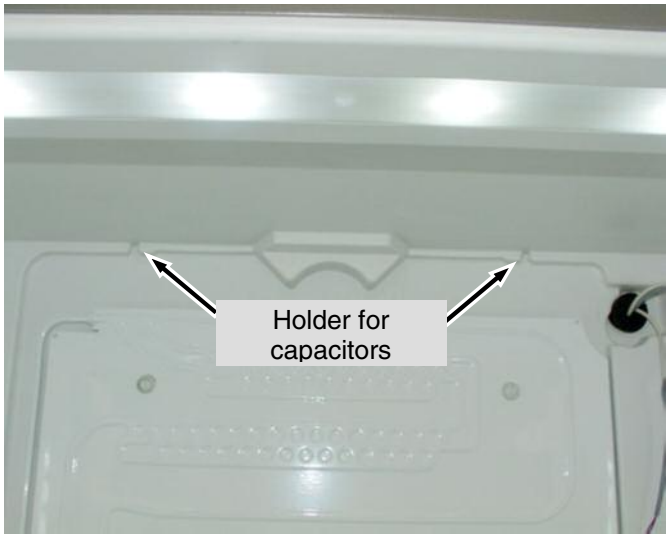


Fig. 5.2.5/ 1

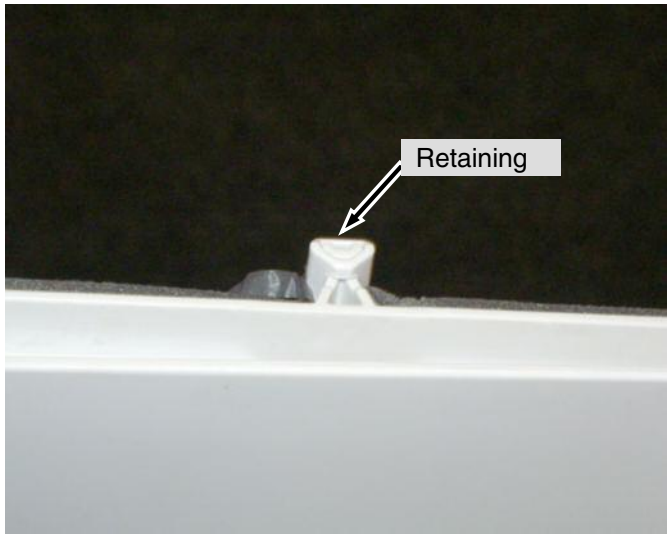


Fig. 5.2.5/ 2

5.3 Freezer compartment

5.3.1 Dismantling of the freezer drawers (at HC(S) up to index 11F, at CS up to index 10H)

Removal of insert:

- First lift up the front of the insert (approx. 2cm) and shift it backwards afterwards to hook it out
- Put the insert out of the drawer.

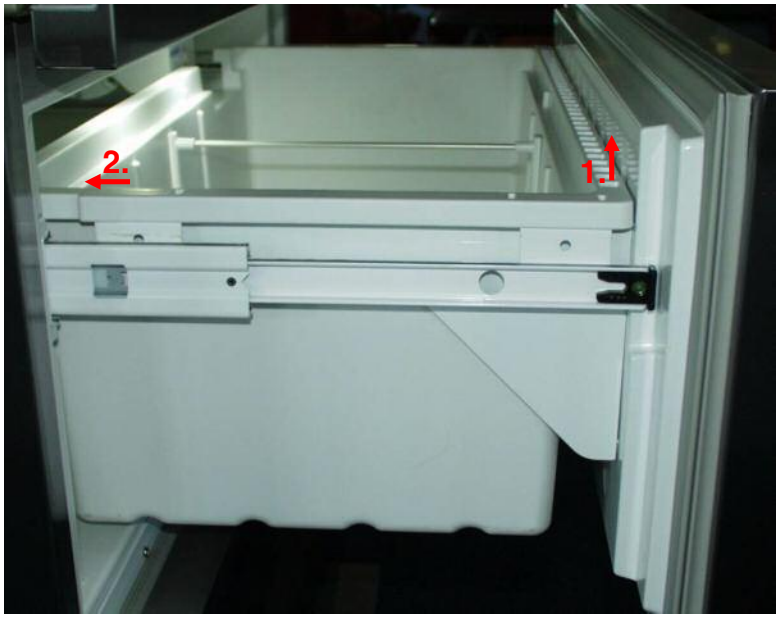


Fig. 5.3.1/ 1

Removal of drawer:

- Take out the fastening screws from the rails on the left and right side.
- Hook out the rails from the rear fastening bolts and put out the drawer.

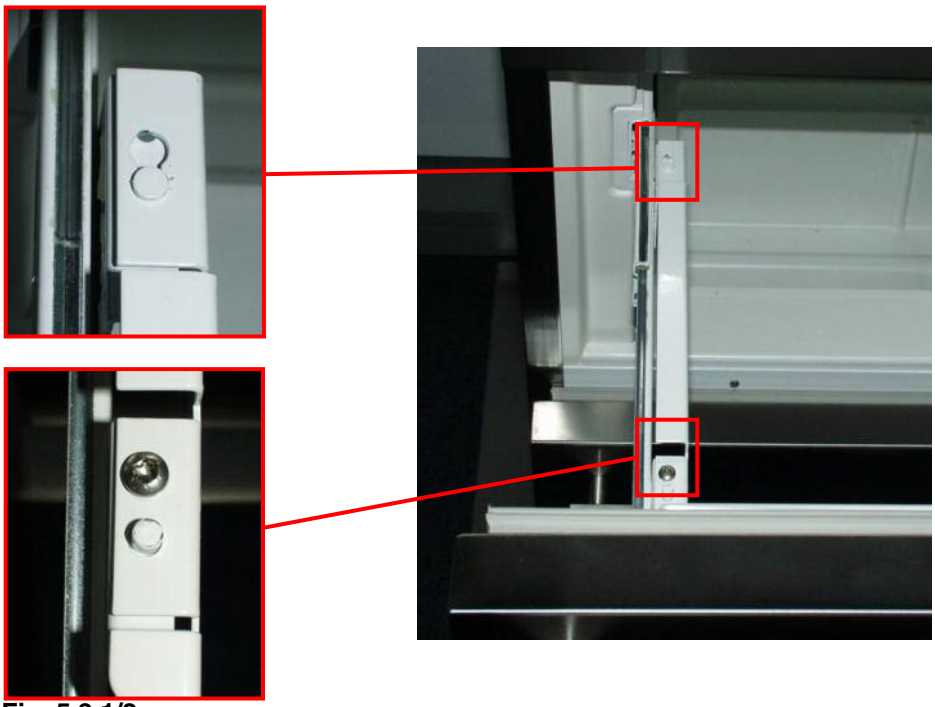


Fig. 5.3.1/2

5.3.2 Dismantling of the freezer drawers (at HC(S) from index 11G, at CS from index 11)

Removal of insert:

- First lift up the front of the insert (approx. 2cm) and shift it backwards afterwards to hook it out
- Put the insert out of the drawer

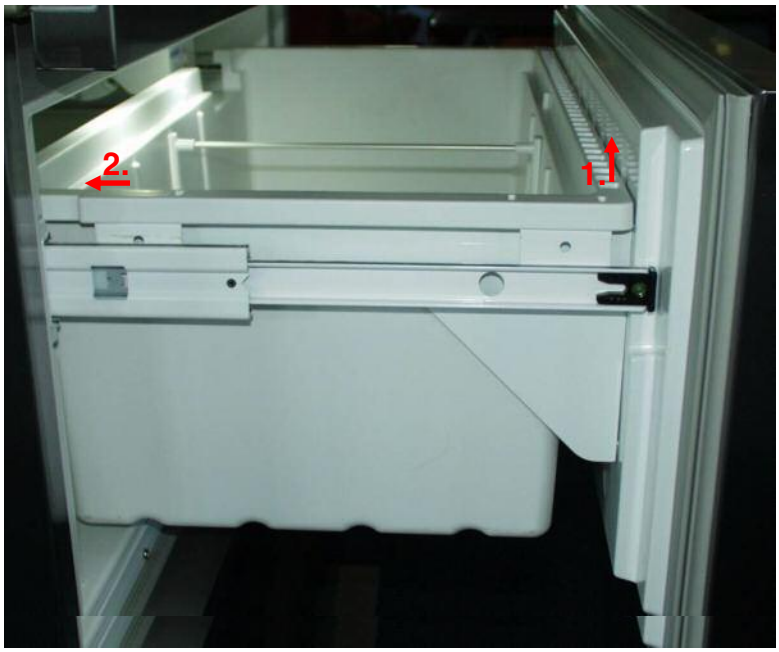


Fig. 5.3.2/ 1

Removal of drawer:

- Take out the fastening screws from the rails on the left and right side.
- Hook out the rails from the rear fastening bolts and put out the drawer.
- Be aware of the position of the adjustment rings (important for the mounting).

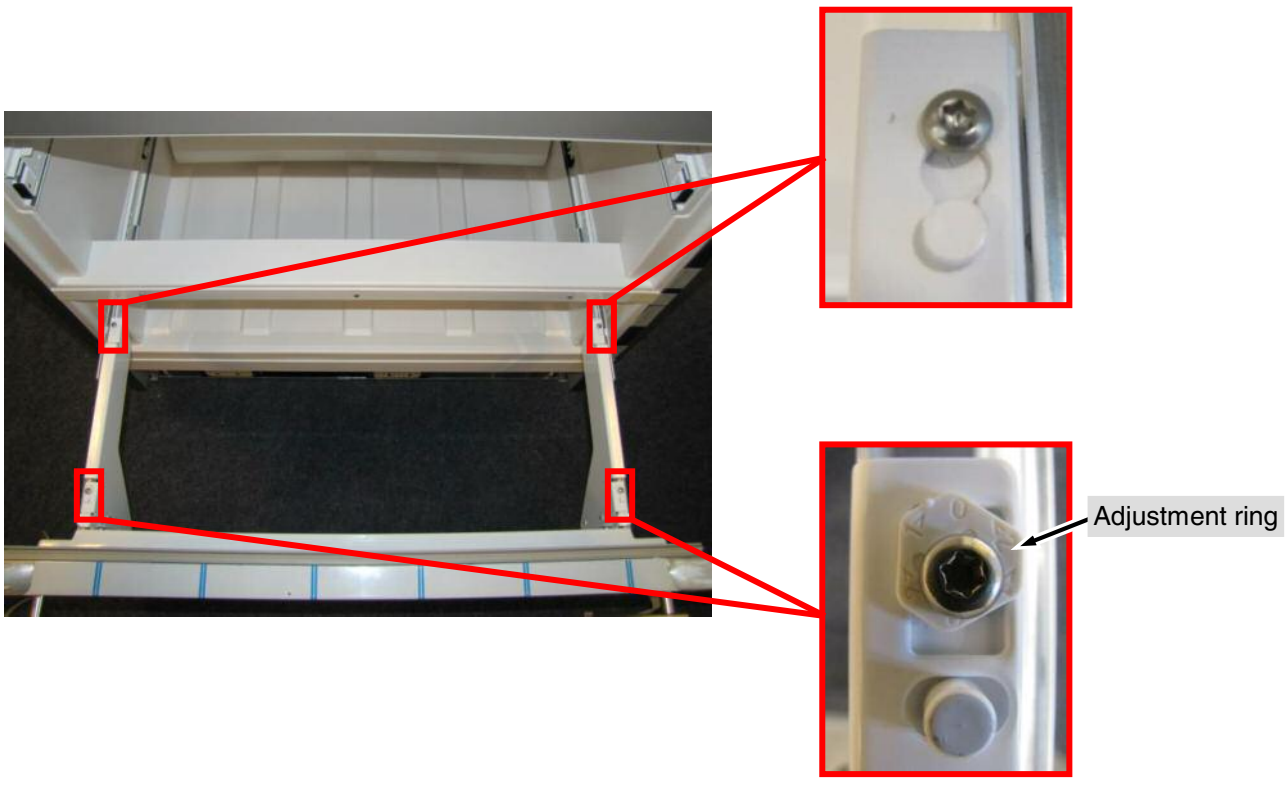


Fig. 5.3.2/ 2

5.3.3 Freezer compartment evaporator cover

IceMaker:
- Press up the retaining lugs of the IceMaker and draw the IceMaker forwards.
- Disconnect cable.

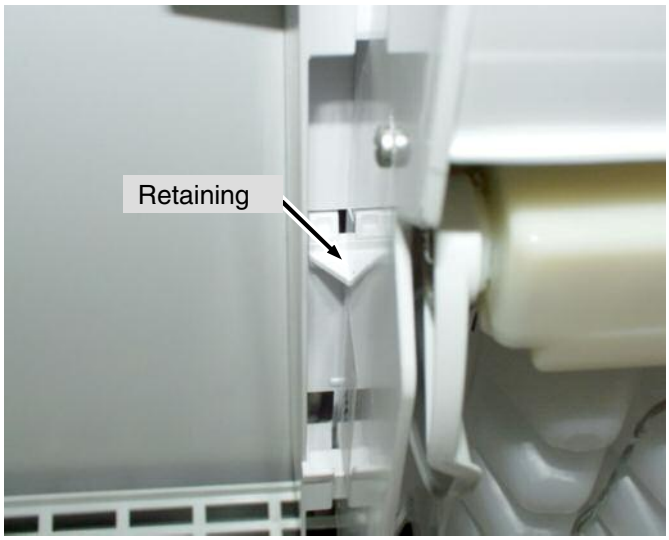


Fig. 5.3.3/ 1

Fig. 5.3.3/ 2

Cover:
- Unclip the air sensor and remove 4 screws.
- Draw the cover forwards and swing it out at the bottom.
- Disconnect the connecting cable to the reed contacts and remove the cover.

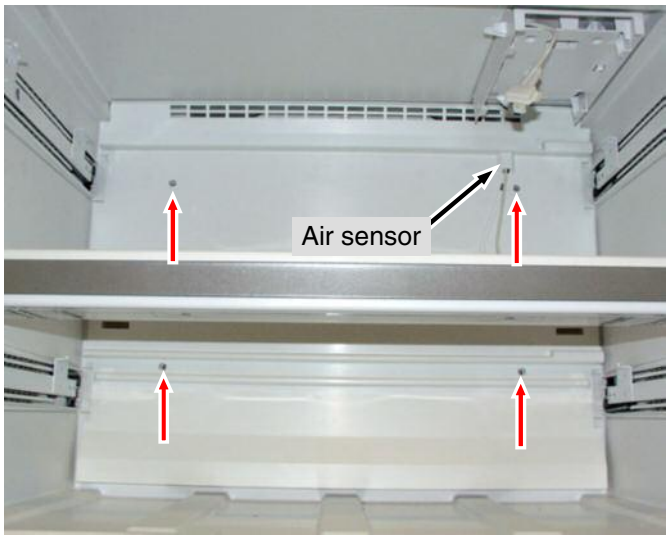


Fig. 5.3.3/ 3

Fig. 5.3.3/ 4

5.3.4 Freezer compartment air sensor

Air sensor: - Pull the air sensor out rearwardly through the housing feedthrough and replace it by the repair kit. The repair instructions accompany the repair kit.

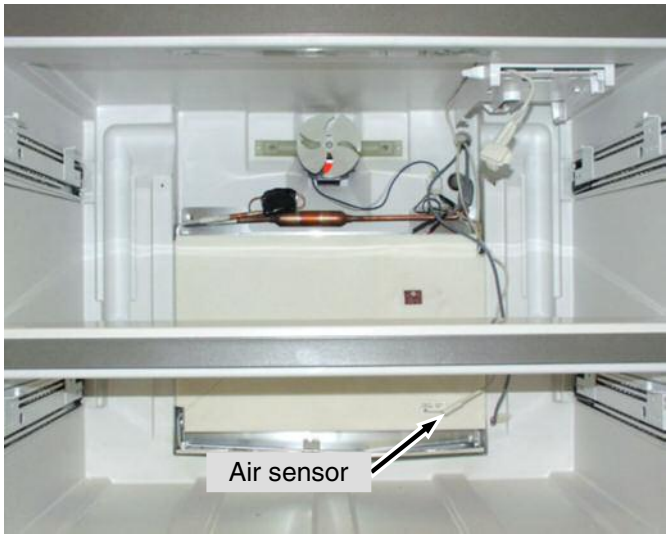


Fig. 5.3.4/ 1

5.3.5 Temperature limiter

Temperature limiter:
- Unscrew temperature limiter.
- Detach plastic.
- Pull the temperature limiter up and out.
- New temperature limiter is pieced together using the repair kit.

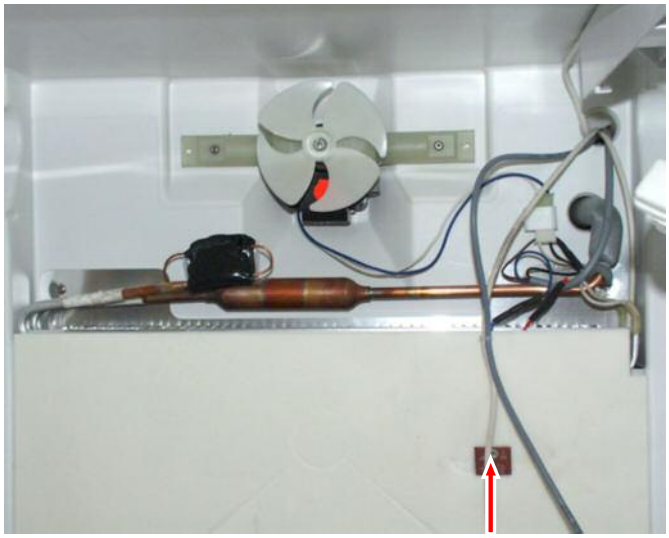


Fig. 5.3.5/ 1

5.3.6 Freezer compartment evaporator sensor

Evaporator sensor: Raise evaporator module and swing it out in a forward direction .
- Make incisions in the sheeting at the marked locations (1st and 2nd step, see **Fig. 5.3.6/ 1** and **Fig. 5.3.6/ 2**).
- Bend open the retaining lugs of the cover plate and remove it.
- Draw the evaporator sensor to the left, out of the lamellar evaporator.
- Draw the sensor out rearwardly, through the housing feedthrough, and replace it using the repair kit. The repair instructions accompany the repair kit.

Defrost heater: Is clipped into the evaporator fins. Can be replaced if defective.

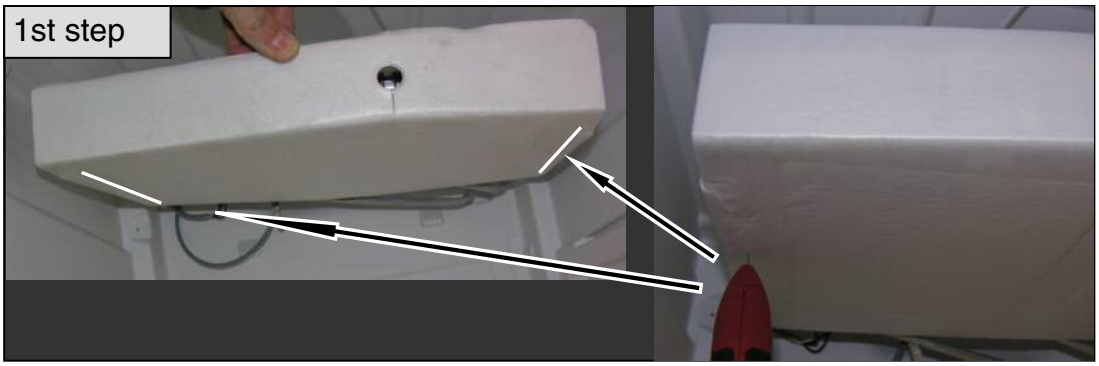


Fig. 5.3.6/ 1 Making an incision in the sheeting

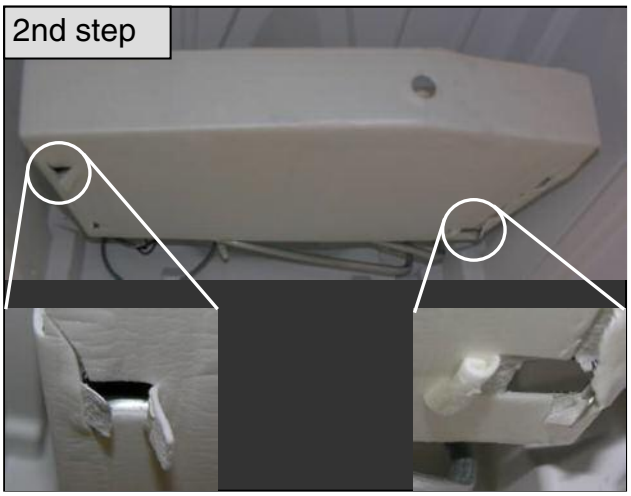


Fig. 5.3.6/ 2 Cutting open the evaporator cover

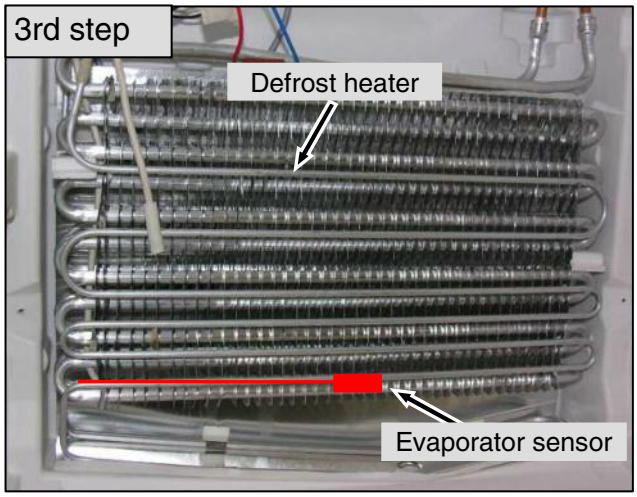


Fig. 5.3.6/ 3 Lamellar evaporator

5.3.7 Freezer compartment fan

Freezer compartment fan: - Disconnect fan cable.
- Remove the fastening screws and detach the fan together with the mount.
- Remove the blades, strip off the rubber rings.
- Disengage the locating lugs and remove the holder bracket.

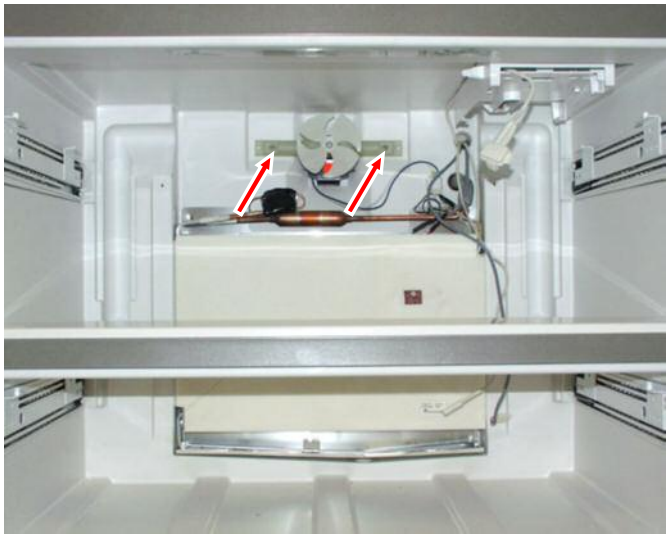


Fig. 5.3.7/ 1

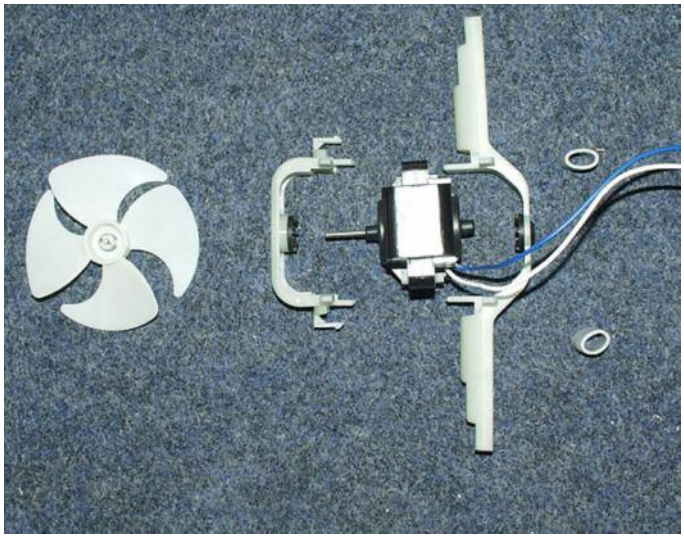


Fig. 5.3.7/ 2

5.3.8 Freezer compartment reed contact

Reed PCB: - Remove the polystyrene strips on the back of the freezer compartment evaporator cover.
- Take the reed PCB out of the holder and disconnect it.

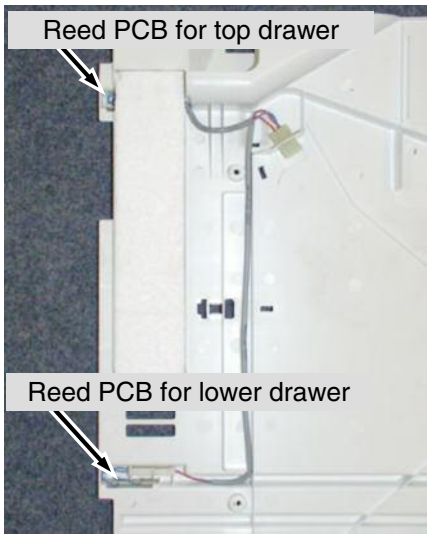


Fig. 5.3.8 / 1

Fig. 5.3.8/ 2

Position of the reed contacts: **-** On the evaporator cover.

Position of the magnets: - In the back right corner of the drawers.

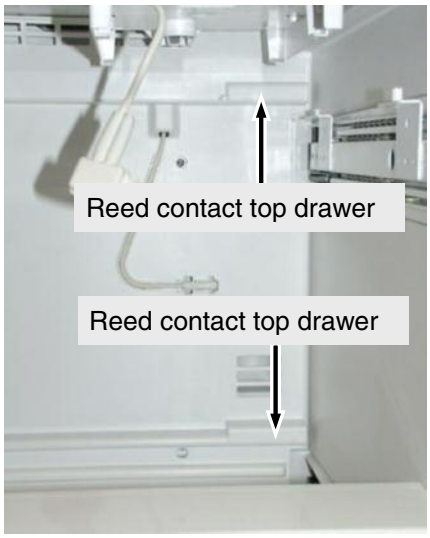


Fig. 5.3.8/ 1

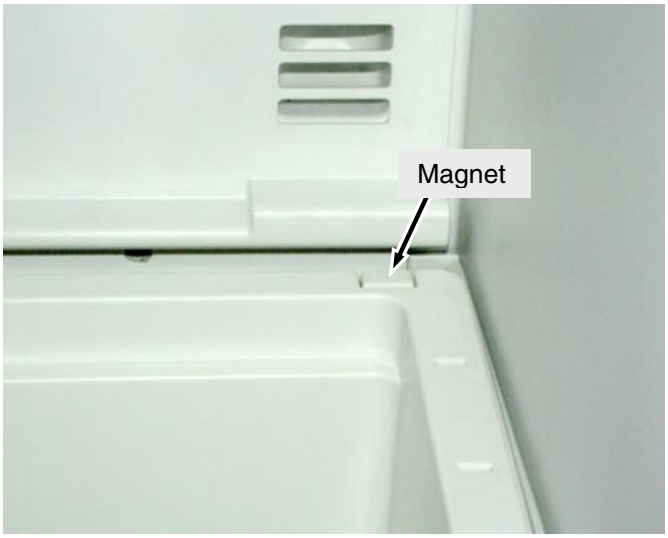


Fig. 5.3.8/ 2

5.3.9 Fitting the cover

Cover:
- The air guide channels have to be free from cables.
- Therefore put away the cables for the air sensor and reed PCB in the storage space above the evaporator.
- The cover has to butt fully against the compartment liner in order that proper air guidance is ensured.
- Pay attention that the cover also comes up against the ceiling of the compartment liner in order that the lower drawer can slide all the way in when it is closed.

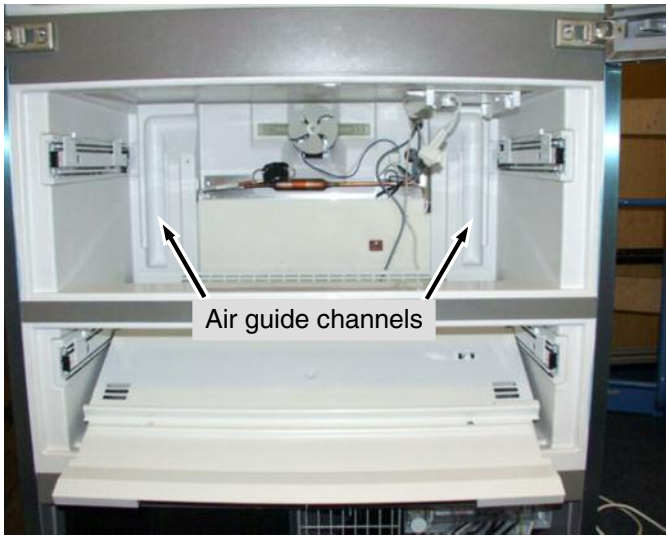


Fig. 5.3.9/ 1

Fig. 5.3.9/ 2

Fig. 5.3.9/ 3

Fig. 5.3.9/ 4

6.0 Technical data

6.1 General

Sensor values:

Temperature °C	Resistance value kOhm
+95 (+35)	3.1
+86 (+30)	3.8
+77 (+25)	4.7
+68 (+20)	5.9
+59 (+15)	7.4
+50 (+10)	9.4
+41 (+5)	11.9
+32 (0)	15.4
+23 (-5)	19.9
+14 (-10)	26.0
+5 (-15)	34.4
-4 (-20)	45.7
-13 (-25)	61.4
-22 (-30)	83.4
-31 (-35)	114.5

6.2 Refrigerator compartment

Interior light	Light column: Wattage: 2 x 2.86 W Voltage: approx. 13 V/DC, with LED lighting connected. 4 LEDs: Wattage: 4 x 1.1 W Voltage: approx. 18 to 20 V/DC, with LED lighting connected. Vegetable drawer: Wattage: 2 x 2.86 W Voltage: approx. 18 to 20 V/DC, with LED lighting connected. Total: 13.4 W
Fan:	Wattage: 1.1 W Voltage: 11 V/DC
Heater for FrenchDoor-gasket:	Wattage: 2x ca. 6 Watt Voltage: 24 Volt/DC

6.3 Freezer compartment

Interior light	2 strips with 2 LEDs each: Wattage: 4 x approx. 1.1 W Voltage: approx. 18-20 V/DC, with LED lighting connected. Total: 4.4 W
Fan:	Wattage: 1.5 W Voltage: 115 V/AC
Defrost heater:	Wattage: 194 W Voltage: 115 V/AC
Temperature fuse:	Tripping temperature: +199°F (+93°C) (If the fuse has tripped, it has to be replaced)

7.0 Customer menu

Activation of the customer menu: Push „**SuperFrost“** for 5 seconds.

All features and functions (e.g. child lock, brightness of the display,…) which can be activated and changed by the customer are described in the user's manual.

Only the **permanently activation of the FrenchDoor heater is not described in the user's manual** any more.

In case of heavy condensation on the FrenchDoor seal it is necessary to activae the heater permanently. Therefore for the state HI a new heater activation duration (HH) has to be programmed:

- Push SuperFrost-symbol for 5 seconds -> customer menu gets activated
- Push Down-symbol of the freezer compartment several times until H is shown in display
- Push SuperFrost-symbol -> H0 is shown in display
- Push Up-symbol for 4 seconds -> HH is shown in display
- Push SuperFrost-symbol
- Push Up-symbol of the freezer compartment until HI is shown in display
- Push SuperFrost-symbol
- Push On/Off-symbol of the freezer compartment -> customer menu gets deactivated

	Until now	New	Activation duration for HI
HO	permanent OFF	permanent OFF	
HA	20sec. ON / 40sec.OFF	20sec.ON / 40sec. OFF	
HI	permanent ON	20sec. ON / 40sec. OFF	HL (standard)
		permanent ON	HH

The state HI can be changed back to the standard programmed activation duration (HL) of the heater (e.g. if the ambient humidity gets decreases):

- Push SuperFrost-symbol for 5 seconds -> customer menu gets activated
- Push Down-symbol of the freezer compartment several times until H is shown in display
- Push SuperFrost-symbol -> HO is shown in display
- Push Down-symbol for 4 seconds -> HL is shown in display
- Push SuperFrost-symbol
- Push On/Off-symbol of the freezer compartment -> customer menu gets deactivated

8.0 Service menu

The service menu may be used by service technicians only.

Activation of service menu: Press "**Up**" + "**ON/OFF**" simultaneously for about 5 seconds (freezer compartment buttons)

If the **service menu is activated,** then **"MENU" flashes in the display.**

8.1 Manual defrosting

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	H flashes	Service menu active, Manual defrosting selected
2	H flashes	Press "SF" once	H I Static	**Manual defrosting ON** selected
3	H I Static	Press "SF" once	A Static	**Manual defrosting ON** activated
Manual defrosting is ended: - Switching appliance ON/OFF - Automatic after the defrost parameters are reached				

8.2 Demo mode

Step	Display	Operation	Display following operation	Testing option / Info
Start service menu -- Demo mode ON --				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes	Service menu active
2	flashes	Press "Up" once	flashes	**Demo mode** selected
3	flashes	Press "SF" once	Static	**Demo mode ON** selected
4	Static	Press "SF" once	Set value and "**Demo**"	**Demo mode ON**
Start service menu -- Demo mode OFF--				SF = SuperFrost
1	Actual value and "**Demo**"	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes and "**Demo**"	Service menu active
2	flashes	Press "Up" once	flashes and "**Demo**"	**Demo mode** selected
3	flashes and "**Demo**"	Press "SF" once	static and "**Demo**"	**Demo mode OFF** selected
4	static and "**Demo**"	Press "SF" once	Actual value	**Demo mode OFF**

The text "**Demo**" in the display informs of the **activated demo mode**.
Demo mode can be deactivated only via service menu, not by OFF/ON or disconnection from the supply.
Operation switches to the mode wanted, demo mode or normal mode, as soon as "SuperFrost" has been actuated.

8.3 Panel test

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes	Service menu active
Panel test -- test of sensor buttons, display elements, door sensor and beep --				
2	flashes	Press "Up" twice	flashes	Panel test selected
3	flashes	Press "SF" once	Static	Panel test activated
4	Static	Press "SF" once	All symbols/segments	All symbols/segments
5	All symbols/segments	Doors closed/open and press all buttons one after the other (each operation is confirmed by a beep)	- Beep for 2 sec. - appliance switches OFF	After the last button has been pressed a beep sounds for 2 seconds, only if the test has been successful.
End	Panel test cannot be ended in step 2, for example, it has to be performed in full. Should a **button/sensor be defective**, there will be **no 2-second beep** and the **appliance will not switch OFF**. The appliance then has to be unplugged and plugged back in again.			

8.4 Sensor test (display of temperature) and door contact test E-

8.4.1 Refrigerator/freezer compartment E'

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	H flashes	Service menu active
Sensor test and door contact test (sensor values without offset, appliance in control mode)				
2	H flashes	Press "Up" three times	E- flashes	Sensor test mode selected
3	E- flashes	Press "SF" once	E' Static	Sensor test mode activated
4	E' Static	Press "SF" once	'3 flashes alternately with sensor temperature	**Freezer compartment air sensor**
5	'3 flashes alternately with sensor temperature	Press "Up" once	'4 flashes alternately with sensor temperature	**Freezer compartment evaporator sensor**
6	'4 flashes alternately with sensor temperature	Press "Up" once	'1 flashes alternately with sensor temperature	**Refrigerator compartment air sensor**
7	'1 flashes alternately with sensor temperature	Press "Up" once	'2 flashes alternately with sensor temperature	**Refrigerator compartment evaporator sensor**
8	'2 flashes alternately with sensor temperature	Press "Up" once	'A flashes alternately with oP or cL	**Refrigerator compartment door contact** (oP=door open, cL=door closed)
9	'A flashes alternately with sensor temperature	Press "Up" once	'b flashes alternately with oP or cL	**Freezer compartment door contact** (oP =door open, cL =door closed)
End	Press "**ON/OFF**" once: Return to level 2 E' . No further points selectable with this appliance. Press "**ON/OFF**" twice: Return to level 1 E- . Points: d , P , E- , L- selectable Press "**ON/OFF**" three times: Return to normal/control mode			

8.4.2 IceMaker

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes	Service menu active
Sensor test and door contact test (sensor values without offset, appliance in control mode)				
2	flashes	Press "Up" three times	flashes	**Sensor test mode** selected
3	flashes	Press "SF" once	Static	**Sensor test mode activated**
4	Static	Press "Up" once	Static	**IceMaker selected**
6 → 5	Static	Press "SF" once	flashes alternately with sensor temperature	**IceMaker air sensor**
5 ← 6	flashes alternately with sensor temperature	Press "Up" once	flashes alternately with or	**Ice-cube drawer door contact** (oP=door open, cL=door closed)
End	Press "**ON/OFF**" once: Return to level 2 . No further points selectable with this appliance. Press "**ON/OFF**" twice: Return to level 1 . Points: selectable Press "**ON/OFF**" three times: Return to normal/control mode			

8.5 Service mode

8.5.1 Refrigerator/freezer compartment

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes	Service menu active
Service mode -- testing electric loads--				
2	flashes	Press "Up" four times	flashes	Service mode selected
3	flashes	Press "SF" once	Static	Service mode activated
4	Static	Press "SF" once	Static	**All OFF**
14→5	Static	Press "Up" once	Static	**- Freezer compartment compressor ON**
6	Static	Press "Up" once	Static	**- Refrigerator compartment compressor ON**
7	Static	Press "Up" once	Static	**Freezer compartment fan On**
8	Static	Press "Up" once	Static	**Freezer compartment defrost heater ON**
9	Static	Press "Up" once	Static	**Refrigerator compartment light ON**
10	Static	Press "Up" once	Static	**Refrigerator compartment fan ON**
11	Static	Press "Up" once	Static	**Freezer compartment light ON**
12	Static	Press "Up" once	Static	**Condenser fan ON**
13	Static	Press "Up" once	Static	**FrenchDoor heating ON**
5 ←14	Static	Press "Up" once	Static	**Return to step 5**
End	Press "**ON/OFF**" once: Return to level 2 . Points: , , , selectable Press "**ON/OFF**" twice: Return to normal/control mode			

Note: - The IceMaker self test (**7.5.2)** can be carried out only once.
- In order to be able to carry out the self test anew, the appliance has to be disconnected from the supply.

8.5.2 IceMaker

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	H flashes	Service menu active
Service mode -- testing electric loads--				
2	H flashes	Press "Up" four times	L flashes	**Service mode** selected
3	L flashes	Press "SF" once	L 1 Static	**Service mode activated**
4	L 1 Static	Press "Up" once	L r Static	**IceMaker selected**
5	L r Static	Press "SF" once	r 0 static	**All OFF**
12 → 6	r 0 Static	Press "Up" once	r 2 flashes alternately with - 0	**All OFF**
7	r 2 flashes alternately with - 0	Press "SF" once	r 2 flashes alternately with - 1	**- Ice-cube tray emptied, back to home position** **- 3 seconds solenoid valve ON**
8	r 2 flashes alternately with - 1	Press IceMaker ON/OFF button	r 2 flashes alternately with - 0	**All OFF**
9	r 2 flashes alternately with - 0	Press "Up" once	r 3 flashes alternately with - 0	**All OFF**
10	r 3 flashes alternately with - 0	Press "SF" once	r 3 flashes alternately with - 1 → - 0	**- Ice-cube tray emptied** **- 25 seconds solenoid valve ON** After 25 seconds have elasped, r 3 again flashes alternately with - 0 **The drawer must be closed**.
11	r 3 flashes alternately with - 0	- Press IceMaker ON/OFF button (→ switch ON) - Close drawer	r 3 flashes alternately with - 0	**Ice-cube tray returns to home position**
6 ← 12	r 3 flashes alternately with - 0	Press "Up" once	r 0 Static	**Return to step 6**
End	Press "**ON/OFF**" once: Return to level 2 : L r Items: L 1 L r L n selectable Press "**ON/OFF**" twice: Return to normal/control mode			

8.5.3 solenoid valve

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes	Service menu active
Service mode -- testing electric loads--				
2	flashes	Press "Up" four times	flashes	**Service mode** selected
3	flashes	Press "SF" once	Static	**Service mode activated**
4	Static	Press "Up" two times	Static	**Solenoid valve selected**
5	Static	Press "SF" once	static	**All OFF**
8 → 6	Static	Press "Up" once	flashes alternately with	**All OFF**
7	flashes alternately with	Press "SF" once	flashes alternately with	**- 10 seconds solenoid valve ON** After 10 seconds have elapsed, again flahes alternately with
6 ←8	flashes alternately with	Press “Up” once	static	**Return to step 6**
End	Press "**ON/OFF**" once: Return to level 2 : Items: selectable Press "**ON/OFF**" twice: Return to normal/control mode			

9.0 Error codes

Error code	Defective component	Emergency mode
F1	Refrigerator compartment air sensor	Compressor 20 minutes ON and 40 minutes OFF.
F2	Refrigerator compartment evaporator sensor	Compressor 20 minutes ON and 40 minutes OFF.
F3	Freezer compartment air sensor	Compressor continuous operation
F4	Freezer compartment evaporator sensor	Compressor continuous operation